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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/410,606	10/01/1999	DAVID ALAN EDWARDS	99-TK-239	7114

7590 04/27/2004  
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EXAMINER

MASKULINSKI, MICHAEL C

ART UNIT PAPER NUMBER

2113

DATE MAILED: 04/27/2004

23

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.

09/410,606

Applicant(s)

EDWARDS ET AL.

Examiner

Michael C Maskulinski

Art Unit

2113

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 08 March 2004.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-36 is/are pending in the application.
- 4a) Of the above claim(s) 2,3,5,10,13,14,16,21,24,25,27 and 32 is/are withdrawn from consideration.
- 5) ☒ Claim(s) 1,4,6-8,11,12,15,17-19,22,23,26,28-30 and 33-36 is/are allowed.
- 6) ☒ Claim(s) 9,20 and 31 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- ☒ Notice of References Cited (PTO-892)
- ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_
- ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_
- ☐ Notice of Informal Patent Application (PTO-152)
- ☐ Other: \_\_\_\_\_

**Non-Final Office Action**

***Claim Rejections - 35 USC § 103***

1. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.
2. Claims 9, 20, and 31 are rejected under 35 U.S.C. 103(a) as being unpatentable over Razban, U.S. Patent 5,289,587, and further in view of Circello, U.S. Patent 5,704,034.

Referring to claims 9, 20, and 31:

- a. In column 2, lines 39-62, Razban discloses in-circuit emulation by providing a microprocessor's (at least one processor) program counter external to the device on a dedicated bus (a system bus/communication link coupling the processor and debug circuit). An emulator (a debug circuit) can then readily generate a list of executed instruction addresses by simply monitoring the bus. However, Razban doesn't explicitly disclose that the processor and debug circuit are implemented on a same integrated circuit. In Figure 1, Circello discloses a debug module and a CPU in the same processing system (components of microcomputer implemented on the same integrated circuit). Further, in column 3, lines 32-36, Circello discloses that the present invention provides an architecture and methodology for implementing trace and breakpoint functions in real time. The data processor being tested is not typically required to halt or modify operation before the trace and breakpoint functions are executed. It would have been obvious to one of ordinary skill at the time of the invention to

include the implementation of components of the microcomputer operating in real time on the same integrated circuit of Circello into the system of Razban. A person of ordinary skill in the art would have been motivated to make the modification because it *provides trace and debug functionality without significantly intruding or adversely affecting the data processor* (see Circello: column 3, lines 46-49).

b. In column 2, lines 39-62, Razban discloses transmitting a program counter to an emulator for debugging purposes (the debug circuit is adapted to generate trace information including the program counter).

***Allowable Subject Matter***

3. Claims 1, 4, 6-8, 11, 12, 15, 17-19, 22, 23, 26, 28-30, and 33-36 are allowed.

***Response to Arguments***

4. Applicant's arguments, see paper no. 22, filed March 8, 2004, with respect to claims 1, 12, and 23 have been fully considered and are persuasive. The rejection(s) of claim(s) 9, 20, and 31 under 35 U.S.C. 103(a) as being unpatentable over Razban, U.S. Patent 5,289,587, and further in view of Swoboda, U.S. Patent 5,828,824 has been withdrawn.

5. Applicant's arguments, see paper no. 22, filed March 8, 2004, with respect to the rejection(s) of claim(s) 9, 20, and 31 under 35 U.S.C. 103(a) as being unpatentable over Razban, U.S. Patent 5,289,587, and further in view of Swoboda, U.S. Patent 5,828,824 have been fully considered and are persuasive. Therefore, the rejection has been

withdrawn. However, upon further consideration, a new ground(s) of rejection is made in view of Circello, U.S. Patent 5,704,034.


***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Michael C Maskulinski whose telephone number is (703) 308-6674. The examiner can normally be reached on Monday-Friday 9:30-6:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Robert W Beausoliel can be reached on (703) 305-9713. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

MM

  
ROBERT BEAUSOLIEL  
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